

REMARKS

Claims 1- 67 are pending in this application. By this amendment, claims 1, 2, 5, 7, 32, 33, 34 and 45 are amended, and claims 52-67 are added.

The Office Action objects to claims 5, 7 and 45 because of informalities. These claims are amended to obviate the informalities. Withdrawal of the rejection is requested.

The Office Action rejects claims 1-4, 8-19, 23-28, 33-36 and 41-48 under 35 USC 102 over Danielsson (US 2002/0018543), rejects claims 5 and 7 under 35 USC 103 over Danielsson in view of Yanaki (US Re 33,634), rejects claims 20-22, 31, 32 and 49-51 under 35 USC 103 over Danielsson in view of Izumi (US 6,262,408) and rejects claims 29 and 30 under 35 USC 103 over Danielsson in view of Schick (US 6,134,298) and Everything USB. These rejections are respectfully traversed.

Danielsson discloses an imaging system, and indicates that it can use prior art detectors such as described in Nelson and the '856 patent. Both Nelson and the '856 application relate to so-called "edge-on" detectors, which are significantly different than the detectors of the present claims. In particular, the detectors of Nelson are described as being strip detectors (par. 2, lines 32-57) comprising a plurality of elongated strips deposited on a silicon base. The individual detectors are substantially one-dimensional.

In contrast, claims 1 and 33 recite a plurality of individually addressable imaging cells. It is not possible to address individual cells in Danielsson, which uses strip detectors. Indeed, the detectors of Danielsson do not comprise "cells" as such at all, but instead are strips.

Further, claim 1 recites "said imaging device comprising an imaging area, having a length and a width comprising plural rows and columns of imaging cells, each extending generally orthogonally to the direction of radiation transmission, and a thickness, extending generally in the direction of radiation transmission, which is substantially shorter than both said length and said width;". According to this feature, the radiation direction is arranged to be parallel to the thickness of the detector. In other words, whereas Danielsson uses "edge-on"

detectors, the present invention uses what could be described as “face-on” detectors, which comprise an array of columns and rows of imaging cells. This, in combination with the claimed feature “said readout cells are arranged to readout said individually addressable imaging cell output values at time intervals substantially corresponding to an object image point traversing half the distance or less of a detector region in the scanning direction during a scan” can provide significant advantages over Danielsson with regard, in particular, to tomographic imaging.

It is suggested that Danielsson describes a slot-based system that could, at best, be used to generate an image, comprising a single focused tomographic plane, as described in paragraph 6 of the present description. In contrast, embodiments of the present invention can be applied to providing imaging data, during a single scan operation, which is suitable for generating multiple, in focus tomographic planes. In one embodiment, in which the detector is an ASID, which can perform with high sensitivity, low noise and a fast speed, the imaging system would be capable of delivering imaging data suitable for constructing multiple in-focus tomographic imaging planes, as described in paragraphs 35-37 of the specification, for example. One advantage of such scanning is that a single scan operation can be used to image an entire object in focus, for example for dental tomography, thereby limiting the persons exposure to potentially harmful doses of radiation.

This advantage can be appreciated when considering dental tomography. As no two people’s mouths are exactly the same, it would be difficult to arrange a scanning system to focus exactly at the center line of any particular set of teeth. By using embodiments of the present invention, an in-focus scan of the person’s teeth can be reconstructed from a single scan operation, even if the actual in-focus plane is not the same as required.

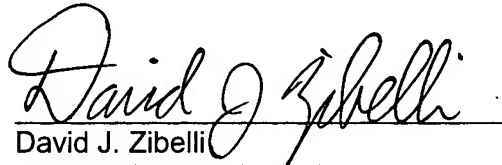
For the above reasons, it is submitted that the claims are not anticipated by Danielsson. Further, since the secondary references do not remedy the above noted deficiencies of Danielsson, the claims are not obvious over the cited references. Withdrawal of the rejections is requested. It is believed that the newly added claims distinguish over the applied references.

In view of the above, Applicant’s submit that the application is in condition for allowance. Prompt consideration and allowance are solicited.

The Examiner is invited to call the undersigned at (202) 220-4200 to discuss any information concerning this application.

The Office is hereby authorized to charge any additional fees under 37 C.F.R. § 1.16 or § 1.17 or credit any overpayment to Deposit Account No. 11-0600.

Respectfully submitted,


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